UNITED STATES PATENT AND TRADEMARK OFFICE **CERTIFICATE OF CORRECTION**

PATENT NO.

: 7,014,813 B1

APPLICATION NO.: 10/088595

DATED

: March 21, 2006

INVENTOR(S)

: Watling et al.

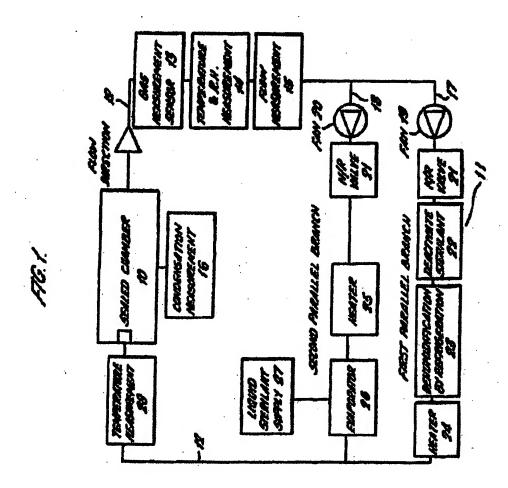
It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Delete the title page and substitute therefor the attached title page

Page 1 of

Drawings

Sheet 1, replace Figure 1 with the figure depicted herein below, in which the "apparatus" has been labeled with --11--



3

UNITED STATES PATENT AND TRADEMARK OFFICE **CERTIFICATE OF CORRECTION**

PATENT NO.

: 7,014,813 B1

Page 2 of

APPLICATION NO.: 10/088595

DATED

: March 21, 2006

INVENTOR(S)

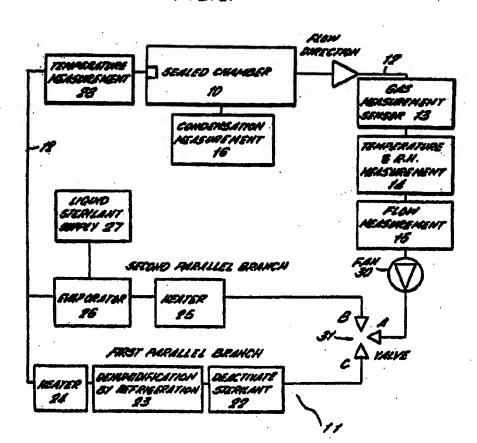
: Watling et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Drawings

Sheet 2, replace Figure 2 with the figure depicted herein below, in which the "apparatus" has been labeled with --11--

F16. 2



UNITED STATES PATENT AND TRADEMARK OFFICE **CERTIFICATE OF CORRECTION**

Page 3 of

PATENT NO. APPLICATION NO.: 10/088595

: 7,014,813 B1

DATED

Je

: March 21, 2006

INVENTOR(S)

: Watling et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 1

Line 65, change "Walter C. Schumb" to --WALTER C. SCHUMB--

Column 2

Line 59, after "e.g." insert --,--

Column 3

Line 20, after "into" insert --,--Line 23, after "port" insert --,--

Column 4

Line 45, after "or" insert --the--

Column 5

Line 53, after "13" --,--Line 54, after "14" insert --,--

Line 6, change "18, 19" to -19, 20--Line 60, change "or" to --of--

Column 7

Line 28, remove [to] Line 47, change "it" to --if--

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO.

: 7,014,813 B1

APPLICATION NO. : 10/088595

DATED

: March 21, 2006

INVENTOR(S)

: Watling et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 9

Line 6, change "visa" to --vice--

This certificate supersedes certificate of correction issued February 5, 2008.

SOOK WARMAN POWER AND THE WILL AND THE WILL

Page 4 of

ATTO WILLIAM

Dependent many signes have upon a compensation of the state of the sta



(12) United States Patent Watling et al.

(10) Patent No.:

US 7,014,813 B1

(45) Date of Patent:

Mar. 21, 2006

(54) METHODS AND APPARATUS FOR VAPOR PHASE STERILISATION

(75) Inventors: David Watling, Westcott (GB);

Anthony Michael Martin, Andover

Assignee: Bioquell UK Limited, Andover

Hampshire (GB)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 785 days.

(21) Appl. No.:

10/088,595

PCT Filed:

Sep. 20, 2000

(86) PCT No.:

PCT/GB00/03606

§ 371 (c)(1),

(2), (4) Date: Jun. 11, 2002

(87) PCT Pub. No.: WO01/21223

PCT Pub. Date: Mar. 29, 2001

Foreign Application Priority Data

Sep. 21, 1999

(51) Int. Cl. A61L 2/08

(2006.01)

U.S. Cl. 422/34; 422/120; 422/292; 422/305

Field of Classification Search 422/26–28, 422/30, 31, 34, 120, 292, 305

See application file for complete search history.

(56)

(30)

References Cited

U.S. PATENT DOCUMENTS

4,512,951 A	4/1985	Koubek
4,843,867 A	7/1989	Cummings
4,898,713 A	2/1990	Picard

4,992,247	Α		2/1991	Foti		
5,173,258	Α		12/1992	Childers		
5,785,934	Α		7/1998	Jacobs et al.		
5,876,664	Α	٠	3/1999	Childers et al.	4	22/28
5,906,794	Α		5/1999	Childers		

FOREIGN PATENT DOCUMENTS

EP	0 486 623 B1	1/1997
EP	0 774 263 A1	5/1997
EP	0 808 631 A1	11/1997
GB	2 217 619 A	11/1989

(Continued)

OTHER PUBLICATIONS

P. Swartling et al., The Sterilizing Effect Against Bacillus subtillis Spores of Hydrogen Peroxide at Different Temperatures and Concentrations, J. Dairy Res. (1968), 35, 423, pp.

(Continued)

Primary Examiner—David Redding (74) Attorney, Agent, or Firm-Workman Nydegger

ABSTRACT

An apparatus for sterilizing a sealable enclosure includes a circuit for flow of a sterilizing gas or gasses. The circuit is connected to the enclosure to be sterilized to form a closed circuit and pumps to circulate gas through the circuit and enclosure. The circuit has parallel branches one of which contains apparatus to deactivate a sterilant to be added to the carrier gas flowing through the circuit and apparatus to dehumidify the gas. The other branch contains apparatus to heat the gas and apparatus to supply a sterilant vapor or vapors to the gas. Control apparatus determines which of the parallel branches the gas flows through. The control apparatus maintains flow through one branch passage until the relative humidity falls below a predetermined level. The flow through that branch is then terminated and flow through the other branch initiated.

22 Claims, 2 Drawing Sheets

